PAPERS READ.

On some Tertiary Fossils, from New Guinea.

By the Rev. J. E. Tenison-Woods, F.G.S., F.L.S., &c.

At a previous meeting this year (Aug. 27), I drew the attention of the Society to some Echini, which had been obtained by Mr. Macleay in New Guinea. They were fossils, and the beds with their position and character were then described. I promised at the same time to refer to the Mollusca on a future occasion. Since then the whole collection has been carefully gone over by Mr. Masters, who has broken up all the larger portions and cleared away the matrix from the casts. The result has not revealed any new fossils, and no new casts of any definite character have been found. The consequence is that the material at my disposal is exceedingly small. There are casts in abundance, but for the most part of bivalves, and these, only internal casts are preserved from which even the genus can very seldom be ascertained. I proceed therefore to deal with what can be clearly described. The only shell is a Pecten, which appears to me to be a new species. It is a remarkable fact, as I before observed, that Pectens seem to have some singular power of resisting the dissolving action of water in limestone deposits. Pectens and Brachiopoda are the only mollusca preserved in the Mount Gambier limestones, though there are casts of others. Even the finest ornaments of the shell, and the most delicate tracery, is quite fresh and well preserved, while the large shells of other genera are entirely dissolved away. It would be really worth while to investigate the microscopic structure of these shells with a view to explain the cause of their permanent character. The following is the diagnosis of the new species.

Pecten Novæguinæ.

P. shell regularly orbicular, equivalve regularly convex, but not globose, rather thick, equilateral and symmetrically rounded at the margin; ears quite square, one being a little obliquely indented at the edge, but otherwise almost equal and rather large; furnished with 12 to 14 large rounded radiate ribs, each

with two rather shallow radiate grooves and transversely striate, striæ at the marginal end becoming scaly raised imbricateous, 8 to 10 in number, interstices furnished with two to three conspicuous, slender, granular ribs, umbones very acute, ears with 8 to 10 very granular ribs. Long. 60, lat. 50. thickness of two valves 30 millim.

The scaly margin gives this shell somewhat the aspect of *P. pallium*, but that has a generally depressed habit, and the scales cover the test. It cannot be mistaken for *P. asper* of South Australia, which has about 25 ribs, but the peculiar multiradiate form of the ribs allies it to that shell and the common Australian *P. bifrons*. It is something like *P. radula*, Linn. of the Philippine Islands, but the shape is different altogether. It is an Australian form, but with only remote resemblances, unless to one still existing in the neighbouring seas.

There are three other casts of univalves in the collection which can be determined. One is a *Phos*, which appears to be new, but is hardly sufficiently preserved for description. The other is a *Strombus*, of the subgenus *Monodactyles*, probably also new, though allied in form to *S. Novæ Zealandiæ*. The third can be identified with some certainty. It is

Dolium costatum, Desh. in Lamarck, vol. X., p. 144.

There is no other species known to me which has the peculiar subacute distant ribs and decidedly canaliculate suture, all of which, as well as the corresponding shape are well shown in the cast in Mr. Macleay's museum. It is a common form in the Indian Archipelago, and I believe specimens have been found on the coast of New Guinea also.

These facts confirm the opinion I have already expressed, that we have in these deposits a very recent tertiary formation, much newer than any of the Murray River or Western Victorian beds. There are no fossils of any kind common to the New Guinea rocks, and those of Southern Australia and the general aspect of both is totally different.